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Empowering women dairy farmers through scientific dairy farming practices

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ABSTRACT

The study was carried out in 6 villages of operational area of KVK, Nalanda, about the knowledge levels of the women dairy farmers with respect to the different component of Scientific Dairy Farming Practices (SDFP). Fifteen farmers from each village constituting the sample size of 90 farmers were included in the survey. The responses of the farmers were collected and statistically analyzed. The study revealed that majority of farmers had medium knowledge on different components of SDFP. But, very few farmers had high knowledge about the SDFP, which showed that different dairy development agencies working in Nalanda district were not providing adequate knowledge to the farmers. The knowledge index of different aspect of SDFP, viz. breeding, feeding, health care and management were 42, 37.84, 39.75 and 41.73%, respectively, and overall knowledge index of SDFP was 39.63, which indicated poor knowledge level of farmers in the study area. Therefore, the KVK, Nalanda should make proper action plan in which more training programmes could be organized on SDFP especially for women dairy farmers to empower them in dairying.

Key words: Breeding, Dairy farmer, Dairy farming, Feeding, Health care, Knowledge, Management, Women empowerment

Dairying is one of the leading best suited enterprises in villages of India, which supports the rural households by creating gainful employment and additional steady income along with crops enterprises. The nutritional value of milk and milk products for maintaining proper health condition of human being is already universally recognized. Dairy farming is considered as an extension of domestic activities like–feeding and watering of animals, bringing of fodder from the field, cleaning of animals and sheds, preparation of cow-dung cakes, protection of animal from diseases, milking, milk products making and marketing of milk (Jadav *et al*. 2014).

Women's involvement in dairying is traditional and dairy farming has been an integral part of homestead farming system. However, most of the work related to dairy farming activities is carried out by women in India (Gupta and Tripathi 2002, Rani and Subhadra 2009). The women farmers play crucial and significant role in livestock rearing, but their contribution has not been given the due place they deserve (Chayal *et al*. 2009). Women earn only 10% of the world's income, while they work two-thirds of the working hours, carry less than 1% of the world property and about two-thirds adults worldwide who are illiterate (FAO 2010). Because of lack of access to resources and facilities, unfair discrimination is more prevalent among the rural women (Niketha *et al*. 2017). Empowerment is a process of creating awareness and capacity building, leading to greater participation, greater decision making power, control and transformation action (Suguna 2001). Most of the works related to dairy farming are done by rural women, but their knowledge about the SDFP is very low (Jadav *et al*. 2014).

Dairy farming has prominent role in upliftment of socio-economic status of dairy farmer. Majority of the dairy farmers are small holders and landless that constitute bulk of the rural population. Dairying helps to alleviate poverty and smoothen income distribution, in the process assuring a balanced development of the rural economy. The major drawback of dairy sector in India is its low productivity. In fact, as per a estimate, 'five dairy cows' in India produce as much milk as produced by 'one dairy cow' in the New Zealand, and 'ten dairy cows' in India produce the quantitative of milk that is produced by a single dairy cow in USA (Hemme *et al.* 2003). One of the major reasons of low productivity could be the traditional dairy farming practices by the farmers. It is well recognized that for increasing productivity and production with aim to make dairy business more remunerative, it becomes essential to adopt scientific dairy farming practices (SDFP) in the field of breeding, feeding, health care and management (Sharma and Bairathi 1999). Several improved technologies have been developed in the previous years in the field of dairying

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sector; however, these have not been successful in changing the socio-economic condition of farmers to desired level. This failure may be attributed to lack of intensive efforts to transfer the technologies from the scientific institution to the grass root level. Krishi Vigyan Kendra (KVK), an innovative institution of ICAR, plays an important role for transfer of all feasible technologies in the field of agriculture and allied field from scientific institution to farmer's field level through various means like training to farmers, rural youth, and extension workers. Frontline demonstrations, animal health camps, farm trials, Kisan Mela, farm advisory services and other extension activities were organized by KVK in its operational area. KVK, Nalanda was established in the year 1992 under administrative control of Rajendra Agricultural University, Pusa, Bihar (presently under control of Bihar Agricultural University, Sabour) with an aim to improve the socio-economic status of poor farmers in the Nalanda district.

In this context, it becomes pertinent to gather information particularly from women farmers about knowledge on SDFP from the field level, which could help in formulating action plan as per the need of farmers in the jurisdiction area of KVK Nalanda so that programme organized by KVK for women dairy farmers with the help of Jeevika, Nalanda; ATMA, Nalanda; DDDO, Nalanda and other Govt. agencies could be make more effective in the adopted Villages.

In the implementation of development programmes, special role for women beneficiaries are increasingly being identified (Jadav *et al*. 2014). Many studies on the knowledge level or empowerment of women farmers and related aspects of scientific dairy husbandry practices have been carried out in the Indian context, viz. Tyagi and Sohal (1984), Shreesailaja and Veerabhadraiah (1992), Arora *et al*. (2006) but no study has been undertaken with an objective to understand the knowledge level of women dairy farmers through SDFP in Nalanda district. This region also assumes importance as this area is lacking in milk production and productivity even in Bihar. Hence, this study was carried out in the few villages of Nalanda districts to ascertain the level of women dairy farmers knowledge to prepare action plan in villages for accelerating the development in dairying sector and Empowerment of women too.

MATERIALS AND METHODS

The study was conducted in villages of Nalanda district viz Murari, Gonawa, Nehusa, Pachura, Lagghora and Kharuwara, which were randomly selected. Random sampling was again used for selection of dairy farmers in which 15 farmers were selected from each village, i.e. total of 90 farmers. A well structured interview schedule was used for data collection as well as observation of women dairy farming activities at respondent's proximity in the selected villages. Knowledge levels of the women dairy farmers were measured for different components of SDFP as per scale developed by Verma (1993).

The mean score and standard deviation for knowledge were calculated to categorize the respondents into 3 groups, viz. low, medium and high knowledge.

Knowledge index were determined by using formula given below:

$$\text{Knowledge index} = \frac{\text{Obtained score}}{\text{Maximum obtainable score}} \times 100$$

The data were classified, tabulated and statistically analyzed, which led to the following results. Knowledge level of respondent are further categorized into low, medium and high for different component of SDFP like breeding, feeding, health care and management.

RESULT AND DISCUSSION

Majority of respondent belong to low level of knowledge in various components of SDFP (Table 1). In breeding aspect, 30.00% of women dairy farmer have medium knowledge, followed by 63.33% of respondent had low knowledge and only 6.66% of respondent had high knowledge on breeding aspect. Similarly, majority of farmers have low knowledge (58.88%) in feeding aspect, followed by high knowledge (12.22%) and medium knowledge (28.88%) of SDFP. In health care, majority of farmers (66.66%) had low knowledge, followed by medium (24.44%) and high (8.88%) knowledge respectively. With respect to dairy management practices, more than 67.77% dairy farm women had low knowledge and only 8.88% dairy farmers had high knowledge in the study area. The overall knowledge level of dairy farm women about improved dairy farming practices was low (70%) (Table 2) followed by followed by medium knowledge (20%) and high knowledge (10%) in the study area. It is evident from the Table 3 that the knowledge index of various components of scientific

Table 1. Distribution of respondents according to knowledge categories

Area	Number of respondent	Percentage
Breeding		
Low	57	63.33
Medium	27	30.00
High	6	6.66
Total	90	100
Feeding		
Low	53	58.88
Medium	26	28.88
High	11	12.22
Total	90	100
Health care		
Low	60	66.66
Medium	22	24.44
High	8	8.88
Total	90	100
Management		
Low	61	67.77
Medium	21	23.33
High	8	8.88
Total	90	100

Table 2. Categorization of dairy farmers on the basis of overall knowledge level of scientific dairy farming practices

Category	Frequency	Percentage
Low (< 22.3)	63	70
Medium (22.30–50.22)	18	20
High (> 50.22)	9	10
Total	90	100

Table 3. Knowledge indices of scientific dairy farming practices

Area	Knowledge index (%)	Rank
Breeding	42.0	I
Feeding	37.84	IV
Health care	39.75	III
Management	41.73	II
Overall knowledge	39.63	

dairy farming practices of breeding, feeding, health care and management were 42, 37.84, 39.75 and 41.73%, respectively, and overall knowledge index of improved dairy farming practices were 39.63, which indicates knowledge level of dairy farm women was poor in the study area. The study indicated that different dairy development agency working in Nalanda district were not effectively improving knowledge of dairy farm women about the SDFP to the desired level. Our findings were in consonance with those of Raju *et al.*(1999), Sujatha and Nanjaiyan (1999). However, these finding are not in consonance with those of Singh *et al*. (1979), Patel *et al.* (2016) who reported that most of the dairy farmers had high or medium level of knowledge on SDFP. This may be due to the better contact of farmers with mass media exposure, extension workers and extension agencies of government or private both are better functioning for improving the overall knowledge of farmers by various activities like training, demonstration, *Kisan mela*, *Kisan ghosthi*, exposure visit etc.

Majority of dairy farm women participated in different dairy farm activities like feeding, breeding, health care and management but they do not have adequate knowledge about SDFP. Lahoti *et al.* (2012) reported that involvement of farm women in the care of newborn calf and cleaning of utensils and shed is 100% and they are also involved in compost making (73.33%), milking of animals (70%) and weaning and management of calf (66.66%). A farm woman spent average 5 h daily in different dairy farm activities (John Christy and Thirunavukkarasu 2002), but lacking of knowledge about SDFP they earn very less. However, trained dairy farm women has very high knowledge about SDFP, whereas the majority of the untrained dairy farm women has very poor knowledge about many crucial management practices like colostrum feeding, health check-up, deworming of calves, enrichment of dry fodder, silage preparation, feeding pregnant and milking cows, insurance and maintenance of records. The trained dairy farm women have adopted most of the scientific dairy management practices (Jadav *et al*. 2014), which helps in the improvement of income and empowerment of dairy farm women.

Knowledge about different aspects of dairy farming is one of the most preferable prerequisites for improving dairy sector. The findings of the study revealed that knowledge of dairy farm women about improved dairy farming practices in operational area of KVK, Nalanda (Bihar) is poor for development of dairy sector and empowerment of dairy farm women too through dairying. Therefore, scientist of KVK, Nalanda with the help of Veterinary officer, Dairy Development officer, Nalanda and other agencies must periodically conduct training and awareness programmes with respect to vaccination/deworming/health aspect camps and feeding, breeding, health care and management aspect training etc., to boost their knowledge about improved dairy farming practices. Besides that, KVK, should train the farmers in making low cost balanced ration from available resources in the area, transfer the scientific techniques for cultivation of green fodder and other fodder throughout the year by conducting frontline demonstration and on- farm trials to the farmers. Techniques of clean milk production, value added dairy products which are locally popular should be also included in the training so that farmers in the study area improve their knowledge and try to adopt the recommended dairy farming practices. Moreover, mass media need to be utilized to a greater extent for transfer of improved dairy farming practices to the needy farmers in enriching their knowledge.

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